

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

10/527542

INTERNATIONAL PRELIMINARY EXAMINATION REPORT
10 MAR 2005

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| Applicant's or agent's file reference 116484WO | FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) | |
| International application No. PCT/GB 03/04397 | International filing date (day/month/year) 13.10.2003 | Priority date (day/month/year) 15.10.2002 |
| International Patent Classification (IPC) or both national classification and IPC F16C11/06 | | |
| Applicant MINEBEA CO. LTD. et al. | | |

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 6 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I Basis of the opinion
- II Priority
- III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV Lack of unity of invention
- V Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or Industrial applicability; citations and explanations supporting such statement
- VI Certain documents cited
- VII Certain defects in the international application
- VIII Certain observations on the international application

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| Date of submission of the demand 17.03.2004 | Date of completion of this report 13.01.2005 |
| Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465 | Authorized Officer Prieto Sanz, M.D. Telephone No. +49 89 2399-7248 |



**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GB 03/04397

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-12 as originally filed

Claims, Numbers

1-19 as originally filed

Drawings, Sheets

1/2-2/2 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- the language of publication of the international application (under Rule 48.3(b)).
- the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- contained in the international application in written form.
- filed together with the international application in computer readable form.
- furnished subsequently to this Authority in written form.
- furnished subsequently to this Authority in computer readable form.
- The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- the description, pages:
- the claims, Nos.:
- the drawings, sheets:

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5. This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).
(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

the entire international application,
 claims Nos. 17-19
because:
 the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (specify):
 the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):
 the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
 no international search report has been established for the said claims Nos. 17-19

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

the written form has not been furnished or does not comply with the Standard.
 the computer readable form has not been furnished or does not comply with the Standard.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | |
|-------------------------------|-------------|---------------|
| Novelty (N) | Yes: Claims | 3-5,10-12 |
| | No: Claims | 1,2,6-9,13-16 |
| Inventive step (IS) | Yes: Claims | 3-5,10-12 |
| | No: Claims | 1,2,6-9,13-16 |
| Industrial applicability (IA) | Yes: Claims | 1-16 |
| | No: Claims | |

2. Citations and explanations

see separate sheet

Re Item III

Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

Claims 17-19 were not searched (they relate to drawings, Rule 6.2(a) PCT) and therefore cannot be examined.

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

The following documents are referred to in this communication; the numbering will be added to in the rest of the procedure:

D1 = US 3 253 330 A

D2 = US 4 747 203 A

D3 = EP 1 225 349 A

D4 = US 5 537 743 A

Claim 14:

Claim 1 seems to comprise all the features of claim 14 and should therefore be reformulated as a claim dependent on the latter (Rule 6.4 PCT). Therefore claim 14 will be analysed as the most general independent claim for product.

The nearest prior art is considered to be document D2 (see Figures 1a, 3; column 2, line 38 to column 5, line 47) which describes:

A bearing housing (1) to receive and be deformed around a ball (3) having a predetermined radius R to form a bearing when the ball is placed at a predetermined initial location, an inner surface of the bearing housing having at least approximately circular symmetry around a central axis, and being shaped such that:

when a ball having the radius R is placed in the initial location, a clearance (see column 2, lines 63-67) is present between the inner surface of the bearing housing and the surface of the ball in the plane perpendicular to the central axis and passing through the centre of the ball; and

when the bearing housing is deformed around the ball to form a bearing, the

bearing housing is deformed so that the clearance between the inner surface of the bearing housing and the surface of the ball in the plane perpendicular to the central axis and passing through the centre of the ball is less than the clearance prior to deformation of the bearing housing.

The subject-matter of claim 14 therefore does not meet the requirements of Article 33(2) PCT as it is not new.

For the sake of completeness, it is pointed out that the subject-matter of claim 14 is also not new over the disclosure of document D1 (see Figures 2, 4; column 2, line 6 to column 5, line 27).

Claims 1-7, 15:

Dependent claims 1, 6 and 7 do not contain any features which, in combination with the features of the claim to which they refer, meet the requirements of the PCT in respect of novelty/inventive step. The vague terms "matches closely" which are included in claim 1 are not sufficiently precise to distinguish it from the prior art (see Guidelines, C-III,4.5a).

Dependent claims 3-5 appear to meet the requirements of the PCT with respect to novelty and inventive step. The combination of the features of dependent claim 3 is neither known from, nor rendered obvious by, the available prior art. It is suggested therefore that a new independent claim be drafted to include these features, bearing in mind that the features known in combination in D2 should be placed in the preamble of such a claim in accordance with Rule 6.3(b) PCT.

Claim 16:

Claim 8 seems to comprise all the features of claim 16 and should therefore be reformulated as a claim dependent on the latter (Rule 6.4 PCT). Therefore claim 16 will be analysed as the most general independent claim for method.

The nearest prior art is considered to be document D2 (see Figures 1a, 3; column 2, line 38 to column 5, line 47) which describes:

A method of manufacturing a bearing, comprising the steps of:
providing a bearing housing (1), an inner surface of the bearing housing having at

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least approximately circular symmetry around a central axis, and being shaped such that: when a ball having the radius R is placed in the initial location, a clearance (see column 2, lines 63-67) is present between the inner surface of the bearing housing and the surface of the ball in the plane perpendicular to the central axis and passing through the centre of the ball; and when the bearing housing is deformed around the ball to form a bearing, the bearing housing is deformed so that the clearance between the inner surface of the bearing housing and the surface of the ball in the plane perpendicular to the central axis and passing through the centre of the ball is less than the clearance prior to deformation of the bearing housing;

placing a ball having substantially the radius R in the initial position; and
deforming the bearing housing around the ball to form a bearing.

The subject-matter of claim 16 therefore does not meet the requirements of Article 33(2) PCT as it is not new.

For the sake of completeness, it is pointed out that the subject-matter of claim 16 is also not new over the disclosure of document D1 (see Figures 2, 4; column 2, line 6 to column 5, line 27).

Claims 8-13:

Dependent claims 8, 9 and 13 do not contain any features which, in combination with the features of the claim to which they refer, meet the requirements of the PCT in respect of novelty/inventive step. The vague terms "matches closely" which are included in claim 8 are not sufficiently precise to distinguish it from the prior art (see Guidelines, C-III,4.5a).

Dependent claims 10-12 appear to meet the requirements of the PCT with respect to novelty and inventive step. The combination of the features of dependent claim 10 is neither known from, nor rendered obvious by, the available prior art. It is suggested therefore that a new independent claim be drafted to include these features, bearing in mind that the features known in combination in D2 should be placed in the preamble of such a claim in accordance with Rule 6.3(b) PCT.